screwthread pitch in the upper and the lower stacking zone.

16. (twice amended) A changer apparatus as claimed in Claim 13, [characterized in that] wherein the screwthread pitch of the spindles in the loading position is essentially zero.

17. (twice amended) A changer apparatus as claimed in Claim 13, [characterized in that] wherein the average screwthread pitch in the spacing zones is greater than the average screwthread pitch in the upper and the lower stacking zone.

18. (twice amended) A changer apparatus as claimed in Claim 13, [characterized in that] wherein there [has been] is provided a lower and an upper guide pin for guiding the information discs into the holder compartments of the stacking unit, which guide pins are engageable into the center holes of the information discs from above and from below, respectively.

REMARKS

The specification has been amended to include appropriate headings, as required by the Examiner, and to improve upon the idiomatic English. In addition, on page 5 a brief description of Fig. 5 had been inadvertently omitted and is now included based on the more detailed description of Fig. 5 already present on page 10 of the specification.

Claim 19 has been cancelled as not being in compliance with 35

U.S.C. §112, second paragraph. The remaining claims are independent claim 1 and claims 2-18 all of which are directly or indirectly dependent on claim 1. All claims have been amended to render them more particular and distinct.

Shindo GB '811

Claims 1-6, 9 and 11 were rejected under 35 U.S.C. §102(b) as anticipated by this reference, which discloses a disc storage system wherein the discs are in respective storage trays which are vertically stacked and can be rotated to any of storage, access, and read positions. However, the principal objective of Shindo is to enable insertion or retrieval of a disc without interrupting reading of another disc. There is no mention of the problem with which Applicants are concerned; namely, to reduce the necessary depth of the changer by providing a shallower path of travel for transferring a disc from the insertion position to the loading position.

As explained in Applicants' specification on page 1, lines 15-16, conventional changers of this type have an overall depth of at least 1.5 times the disc diameter. With a standard CD parameter of 120 mm, the changer depth will therefore be 180 mm. Applicants invention, however, makes it possible to realize a depth suited to inclusion of the changer in the dashboard of an automobile, which is only 155 mm deep (see specification p. 2, line 29), and so is 25 mm shallower than the prior art changers. This amounts to about a 20% saving over the depth of a standard CD, and so is a significant

improvement.

The limitation in amended claim 1 regarding a curved loading path between the eject position and the loading position is what makes it possible to achieve reduced depth, as stated in the specification on page 2, lines 10-11. Since each of the remaining claims are directly or indirectly dependent on claim 1, they all include that limitation. Accordingly, since there is nothing said in Shindo concerning reduction of the depth of the changer, and that no teaching to employ a curvilinear loading path Applicants submit that the claims herein each patentably distinguish from that reference.

The depth reduction is also aided by arranging the play position so it is offset from a direct connecting line between the eject (insertion) position and the loading position. That is disclosed in the specification on page 2, lines 25-31, and is also specified in claim 3. The Examiner asserted that Fig. 1 of Shindo shows such a positioning arrangement, but Fig. 1 therein is a side view which does not at all show the relative lateral positioning. Fig. 2 of Shindo is a top view showing the lateral positioning, but although 23 is an access position of a disc and 12 is a selected loading position, no play position is indicated. Accordingly, there is no teaching in Shindo of the arrangement specified in Applicants' claim 3.

In regard to claim 4, there is no showing in Shindo Fig. 1 or Fig. 2 of a read position of a disc. The access position 23 is shown, and the disc reader 17, but no relationship is illustrated

between the access and read positions.

In regard to claim 5, although Shindo has two transport mechanisms there is no teaching of transporting a disc between eject, play and loading positions.

Applicants therefore respectfully submit that all claims herein clearly patentably distinguish from the teachings of Shindo.

Shindo in view of Umesaki GB '424

Claims 7, 8 and 12 were rejected as unpatentable over Shindo in view of Umesaki GB '424, on the basis that the use of guide arms for the loading of discs, as specified in claim 7, is disclosed by Umesaki. However, claim 7 requires four guides which comprise pivotal arms, which guides are pre-loaded towards the curvilinear loading path specified in claim 1 on which claim 7 is indirectly dependent. Since Umesaki does not disclose a curvilinear path, there is no teaching therein of guides which are pre-loaded towards such a path.

Applicants therefore believes it clear that claim 7 and claims 8 and 12 dependent thereon patentably distinguish from the combination of these two references.

Shindo in view of Nakamichi (US 5,508,994)

Claim 10 was rejected as unpatentable over the combination of these two references. Claim 10 is dependent on claim 1 and additionally specifies a read/write unit. The Examiner stated that Nakamichi discloses a changer apparatus having a read/write unit,

but that patent has not been made of record herein and a copy thereof was not provided by the Examiner with the Office Action. In addition, the patent number appears to be incorrect since it does not exist in the patent indexing system used by the undersigned attorney.

However, since claim 10 is dependent on claim 1 it distinguishes from Shindo as does claim 1 as described above. Accordingly, it therefore distinguishes from the combination of Shindo with a reference which simply adds the disclosure of a read/write unit in a changer apparatus.

Shindo in view of Clarion JP 131793

Claims 13-18 were rejected as unpatentable over Shindo in view of Clarion JP 131793, which discloses holder compartments which are vertically moveable by rotation of threaded spindles. However, Clarion does not disclose transport means for transporting a disc from an eject position to a loading position in a stacking unit along a curved loading path, as specified in claim 1 on which claim 13 is dependent, and claims 14-18 are dependent on claim 13. Accordingly, Applicants submit that claims 13-18 patentably distinguish from the combination of the aforesaid two references.

Remaining references

Applicants have reviewed the four additional references which were cited but not applied, and does not believe that any of them disclose or suggest a changer apparatus as claimed herein.

Conclusion

For the above reasons, it is believed that as now presented this application is in condition for allowance. Reconsideration and such action is earnestly solicited.

Respectfully submitted,

By Leroy Eason

Leroy Eason, Reg. 17,391
Consulting Patent Attorney
(914) 333-9632
May 1, 2000

CERTIFICATE OF MAILING

It is hereby certified that this correspondence is being deposited with the United States Postal Service as first-class mail in an envelope addressed to:

COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

On May 2, 2000

By Naomi Chapa